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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,853

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Gen-Ichiro Soma

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EXAMINER

MI, QIUWEN

ART UNIT

PAPER NUMBER

1655

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/572,853	<b>Applicant(s)</b> SOMA ET AL.	
	<b>Examiner</b> QIUWEN MI	<b>Art Unit</b> 1655	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-14, 16-22, 26-29 and 33-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-14, 16-22, 26-29 and 33-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/22/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### **CONTINUED EXAMINATIONS**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/29/09 has been entered.

Declaration and Applicant's reply filed on 3/11/2010 are acknowledged. Claims 1-11, 15, 23-25, and 30-32 are cancelled. Claims 12-14, 16-22, 26-29, and 33-38 are pending. **Claims 12-14, 16-22, 26-29, and 33-38 are examined on the merits.**

The Declaration under 37 CFR 1.132 filed on 3/11/2010 is sufficient to overcome the rejection of claims 12-14, 16-22, 26-29, and 33-38 based upon Soma et al, as evidenced by Inagawa et al. However, upon further consideration, a new ground(s) of rejection is made in view of Mulyowidarso et al.

Any rejection that is not reiterated is hereby withdrawn.

### **Claim Rejections –35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 12, 14, 16-19, 26, 28, 33, and 35 are newly rejected under 35 USC § 102 (b) as being anticipated by Mulyowidarso et al (Mulyowidarso et al, The microbial ecology of soybean soaking for tempe production, International Journal of Food Microbiology, 8 (1989) 35-46), as evidenced by Inagawa et al (Homeostasis as regulated by activated macrophage. II. LPS of plant origin other than wheat flour and their concomitant bacteria, Chem. Pharm. Bull. 40 (4) 994-997, 1992)\*.

Mulyowidarso et al teach soybean tempe is a fermented food (thus a fermented edible plant extract) (thus a food containing the fermented plant extract, thus the limitation of claims 18 and 21 is met) (thus contains polysaccharide, see Inagawa et al below) that is consumed as a staple item in Indonesia and several other countries in South East Asia (page 35, 1<sup>st</sup> paragraph). Mulyowidarso et al also teach soybeans soaked in tap water for 24 to 36 h at 20, 30 or 37 degrees C underwent a natural fermentation that was characterized by the growth of microorganisms to  $10^8$ - $10^{10}$  cfu/ml (depending on temperature) and a reduction of pH from 6.5 to 4.5 (thus fermented, thus contains no component derived from an animal). *Lactobacillus casei*, *Streptococcus faecium*, *Staphylococcus epidermidis* and *Streptococcus dysgalactiae* dominated the fermentation but, significant contributions were also made by *Klebsiella pneumoniae*, *Klebsiella ozaenae*, *Enterobacter cloacae*, *Enterobacter agglomerans* (the same as *Pantoea agglomerans*, see the Definition of *Pantoea agglomerans* from Wikipedia (Definition of *Pantoea agglomerans* from Wikipedia, accessed on 3/16/2010, pp. 1) (thus facultative anaerobic gram-negative bacterium, bacillus), *Citrobacter diversus* and *Bacillus brevis*, and the yeasts *Pichia burtonii*, *Candida didensiae* and *Rhodotorula rubra* (see Abstract). Mulyowidarso et al also teach several species of the family Enterobacteriaceae, namely, *E. agglomerans* etc also contributed to

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the ecology of fermentation during the early stages of soaking. Nevertheless, the population achieved by these bacteria were quantitatively significant and would be sufficient to influence the chemical composition of the soak water and beans (page 44, 3<sup>rd</sup> paragraph). Mulyowidarso et al further teach the growth of microorganisms during the soaking of soybeans is likely to have a significant influence on the quality of the final tempe. Presumably, these microorganisms utilize substances leached from the beans into the water, as substrates for their growth. The metabolic end products of growth, to some extent, would diffuse into the beans thereby affecting their chemical composition. Several researches have already indicated that acidification of the beans may be an important property in controlling the growth of food-borne pathogens and ensuring the microbiological safety of the final tempe (page 44, last paragraph bridging page 45). Mulyowidarso et al teach microorganisms isolated from soybean includes *Enterobacter agglomerans* (thus a facultative anaerobic gram-negative bacterium which lives in a symbiotic relationship with the plant) (page 40, Table 1). Mulyowidarso et al teach this observation supports the conclusion that soybeans are the main source of microorganisms responsible for bean fermentation during soaking (page 43, last paragraph).

As evidenced by Inagawa et al, lipopolysaccharide (LPS) of plant origin other than that of wheat flour was surveyed. Concomitant bacteria possibly extracting in root of farm products can be considered to contribute of LPS of plant origin. Some LPS were derived from concomitant bacteria which had probably come from root. Three predominant bacteria have been isolated and identified; *Pantoea agglomerans*, *Enterobacter cloacae* and *Serratia ficaria*. These LPSs were purified and their chemical compositions were examined (see Abstract). *Pantoea agglomerans* is the most remarkable, since it accounts for 40-70% of all living bacteria in wheat

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bran and wheat flour and is persistently isolated from all kinds of wheat four produced in districts as different as, Canada, USA, Australia and Japan (page 996, 2nd column, last column). Inagawa et al also teach, *Pantoea agglomerans* is a species of gram-negative soil bacterial ubiquitously distributed, especially in cotton-seed and wheat, and contributes to the growth of plant by nitrogen fixation and also by release of phosphorus (page 997, 1st column, 1st paragraph) (thus lives in a symbiotic relationship exclusively with a plant). Inagawa et al also teach LPS content in the various plant samples including soybean (page 995, Table 1).

It is noted that since the cited reference teaches the claimed fermented plant extract, it is deemed that the fermented plant extract would inherently have macrophage activation ability even with the presence of polymyxin B (thus the limitation of claim 16 is met).

The intended use of the composition was analyzed for patentable weight. It is deemed that the preamble 'breathes life' into the claims in that the prior art product must not be precluded for use as a bath agent, a pharmaceutical, or an immunopotentiating agent. It is deemed that the composition disclosed by the cited reference is not precluded for carrying out the intended function of the claims.

Therefore, the reference is deemed to anticipate the instant claim above.

Claims 12-14, 16-22, 26-29, and 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mulyowidarso et al and Inagawa et al as applied to claims 12, 14, 16-19, 26, 28, 33, and 35 above, and further in view of Matsuo et al (Matsuo et al, Suppression of plasma cholesterol elevation by Okara tempe in rats, *Biosci Biotech Biochem* 57 (7): 1188-1190, 1993).

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The teachings of Mulyowidarso et al and Inagawa et al are set forth above and applied as before.

The combination of Mulyowidarso et al and Inagawa et al do not specifically teach a fermented plant extract powder.

Matsuo et al teach Okara tempe (OT), an Indonesian fermented traditional food, which is the fermented okara (insoluble residues of homogenized (thus plant extract powder) soybean, OC) by *Rhizopus oligosporus*, and which is interested in as a new high fiber and low energy soybean food stuff (see Abstract). Matsuo et al also teach commercially available dried OC (30 mesh) (thus plant extract powder) was mixed with water and to adjusted to about pH 5.4 and 75% moisture, then sterilized (page 1189, 1<sup>st</sup> column, 3<sup>rd</sup> paragraph).

It would have been *prima facie* obvious for one of ordinary skill in the art at the time the invention was made to use the fermented homogenized (powdered) soybean product from Matsuo et al since Matsuo et al teach Okara tempe as a new high fiber and low energy soybean food stuff. Since both of the Mulyowidarso et al and Matsuo et al yielded beneficial results in fermented soybean in food industry, one of ordinary skill in the art would have been motivated to combine the teachings of the references together.

From the teachings of the references, it is apparent that one of the ordinary skills in the art would have had a reasonable expectation of success in producing the claimed invention.

Thus, the invention as a whole is *prima facie* obvious over the references, especially in the absence of evidence to the contrary.

\*This reference is cited merely to relay an intrinsic property and is not used in the basis for rejection *per se*.

### **Conclusion**

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qiuwen Mi whose telephone number is 571-272-5984. The examiner can normally be reached on 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on 571-272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Qiuwen Mi/

Examiner, Art Unit 1655